



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,255	08/27/2003	Yoshihisa Suda	053466-0366	5217

22428 7590 08/30/2004

FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

FASTOVSKY, LEONID M

ART UNIT	PAPER NUMBER
----------	--------------

3742

DATE MAILED: 08/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,255

Applicant(s)

SUDA ET AL.

Examiner

Leonid M Fastovsky

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 20030827.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The abstract of the disclosure is objected to because it contains extraneous words such as "invention". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12-14 and 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al (4,912,302) in view of Tomantachger et al (5,302,274).

Kobayashi teaches a carbon heating element 8 comprising carbon as a good conductor, the carbon heating element being enclosed in a vessel 1 filled with inert gas (col. 7, lines 45-56), and carbon is obtained by firing organic substances (col. 11, lines 58-67, col. 12), but does not teach boron nitride and a specific resistance range. Tomantachger teaches a conductive frame member 20 filled with carbon (col. 12, lines 40-45) and also containing boron nitride (col. 9, lines 57-66), and a resistance range from 0.1 to 1,000 ohm-cm (col. 9, lines 34-56). It would have been obvious to one having ordinary skill in

Art Unit: 3742

the art to modify Kobayashi invention to include boron nitride as non-conductive material and resistance range as conventional in the art as taught by Tomantachger (col. 9, lines 34-66).

5. Claims 15 and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi in view of Tomantachger and further in view of Gadkaree et al (6,097,011).

Kobayashi in view of Tomangachger teaches substantially the claimed invention including, but does not teach a carbon element having a rectangular cross section. Gadkaree teaches a carbon heating element 14 having a rectangular cross section (col. 7, lines 29-59). It would have been obvious to one having ordinary skill in the art to modify the invention of Kobayashi in view of Tomantachger to include a carbon heater having a rectangular cross section as preferred shape of the heater as taught by Gadkaree (col. 7, lines 25-28).

As for claims 26-27, Kobayashi in view of Tomantachfer teaches the structure that is inherently capable of use as set forth in claims 26-27 (See MPEP 2131.01)

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi in view of Tomantachger and Gadkaree and further in views of Kawakudo et al (4,950,443).

Kobayashi in view of Tomantachger and Gadkree teaches substantially the claimed invention, but does not teach details of organic substances. Kawakudo teaches a method of making a carbon product including substances comprising polyvinyl chloride and furan resin (col. 2, lines 39-67). It would have been obvious to one having ordinary

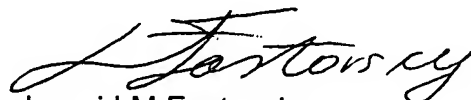
skill in the art to modify the invention of Kobayashi in view of Tomantchger and Gadkree to include organic substances in order to produce a carbon product as taught by Kawakudo (col. 2, lines 39-67 and claim 1).

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. 6699450 (carbon material), 6652958 (conductive polymer), 5122486 (sintered body).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 703-306-5482. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 703-305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leonid M Fastovsky
Examiner
Art Unit 3742

lmf